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09/763,025	02/16/2001	Tomohiro Ishihara	50395-084	2652

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Washington, DC 20005-3096

EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/763,025

Applicant(s)

ISHIHARA ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12-30-03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa JP 10-81532 in view of Glodis 6122935 and Glodis 6105396 and optionally in view of Fleming 4872895, Rabinovich 4840653, Lenz 4243422 and Chandross 5240488.

Looking to the English language translation of Ishikawa: Ishikawa discloses the invention substantially as claimed, except for the length and the temperature. Also, the vacuum teaching is not clear. Looking at the bottom of page 12 of Ishikawa, it refers to "this period" during which the He is less than 100 mm Hg. It is unclear if it refers to the entire previous processing period, or just the "clear-glass-izing". It would have been obvious to have the vacuum during the entire heating, because that is what the original English abstract indicated, because the object of the Ishikawa invention is to remove gas from the preform, and thus one would remove gas during all possible times. And because the top of page 12 indicates that the exhaust tube 23 (i.e. vacuum line) is exhausting at all times.

As to the length: it would have been obvious to make the preform as large as one desires - depending upon how much fiber is desired. Alternatively it would have been obvious to elongate it to be over 1000 during the drawing of a fiber - because one would want to have long fibers which could cover large distances.

As to the time- temperature limitation, it would have been obvious to perform routine experimentation, so as to determine the optimal temperature and time for

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consolidation. Looking to Chandross, it is clear that one can consolidate from 1200-1750 (see col. 11, TABLE, Step 13 - part a). The last line of col. 4 of Lenz discloses one can sinter as low as 1000 C. Fleming col. 2, lines 11-19 disclose a sintering temperature of 1400-1500 for preforms which have  $\text{GeO}_2$  - which Ishikawa has. And Rabinovich (col. 15, lines 55-57 disclose sintering at 1400 for one hour).

Glodis '935 teaches that a low sintering temperature can reduce and/or eliminate bubbles (col. 5, lines 58-62). Glodis '396 teaches at col. 2, lines 43-53 that sintering temperatures depend on the dopants used. It would have been obvious to perform routine experimentation to determine the optimal sintering temperature- depending upon the dopants used - which in turn depend upon the properties of the optical fiber that one wishes to make. Further more, it would have been obvious to use a lower sintering temperature so as to prevent  $\text{GeO}_2$  from volatilizing and causing bubble formation.

Claim 2: refers to reducing the pressure Applicant's value of 10 Pa is approximately 0.07 mm Hg which is the nearly the same as Ishikawa's 0.1 mm. It would have been obvious to have a vacuum as low as possible so as to reduce as much absorbed gas as possible. As to this occurring before heating to a range of 1000 to 1300. IT is noted that the claim does not require ever heating to this range - therefore the prior need not show it. Examiner interprets this to be an intended future use of

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heating to the range 1000-1300. Although Ishikawa heats to 1300, such is part of the heating to the 1000-1400 range.

Claims 4-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa, Glodis, Fleming 4872895, Rabinovich 4840653, Lenz 4243422 and Chandross 5240488 as applied to claim 1 above, and further in view of Brown 5656057.

Brown uses a segmented furnace as claimed in claim 4 so as to increase the rate of preform production (col. 4, lines 37-42 for instance). It would have been obvious to improve the Ishikawa method by using the Brown furnace for the reasons given by Brown.

Claim 5: See Brown, col. 6, lines 22-32.

Claim 7, See figure 4 of Brown.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 2 has been amended to include a step of "reducing the pressure". The only "pressure" previously mentioned is the "reduced-pressure atmosphere" of claim 1. Examiner could find no support in the disclosure as originally filed for reducing the pressure of the (already) "reduced" pressure.

Lines 9-10 of claim 3 state "heating to a thermal shrinking step of heating". Examiner could find no basis for this in the specification as originally filed. Since Examiner could find no basis for this, it is deemed a prima facie showing of failing to comply with 35 USC 112. The burden is now on applicant to show how it complies.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Lines 9-10 state "heating to a thermal shrinking step of heating". It is not understood what is meant by this. Does it mean heating to an initiation point of another heating step (i.e. the thermal shrinking heating step?)

### ***Allowable Subject Matter***

Claim 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art does not recognize the thermal shrinkage and vitrifying of claim 1 in conjunction with the "further" vitrifying of claim 3.

### ***Response to Arguments***

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

It is argued that a temperature under 1450 is insufficient to vitrify a porous body. The translation actually uses the term "inadequate". Examiner assumes that such is a poorly chosen word, by either Ishikawa or by the translator - because it is well known that one can consolidate porous glass bodies at temperatures well below 1450. See the secondary references. As Applicant points out, it is a teaching away from using the claimed temperature. However, it is well understood that patents often contain errors, one of ordinary skill would recognize that one can sinter glass below 1450 - even if Ishikawa states otherwise. Most notably, Fleming at col. 2, lines, 17-19 state that the range (1400-1500) is typical.

IT is further argued that there is no basis that one would be impelled to deviate from the Ishikawa teachings. The two Glodis reference provide bases: 1) to keep the GeO<sub>2</sub> from vaporizing, and 2) different glasses have different viscosities and that

influences the sintering temperature - compelling one to perform routine experimentation to find the sintering temperature to use.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

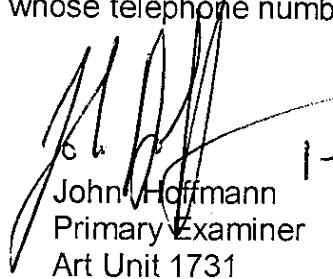
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1700.

  
John Hoffmann  
Primary Examiner  
Art Unit 1731  
1-10-04

jmh